

Reverse Conducting Thyristors (Note 1)

$I_T(AV)$ $I_R(AV)$	I_{TSM}/I_{RSM} (Amps $\times 10^3$)	I_{TRU}/I_{RRI} @ 8.3 ms ($A^2 \text{sec} \times 10^3$)	I_{DRM} @ $T_J(\text{Max})$ $V_{DRM(\text{Max})}$ (mA)	V_{DRM} Range (Volts)	$V_{RM} @ T_J(\text{Max})$ I_{RM} (Amps)	$V_{TM} @ T_J(\text{Max})$ I_{TM} (Amps)	$t_{q(\text{Max})}$ @ $T_J(\text{Max})$ (μsec)	$\text{Max } di/dt$ @ $T_J(\text{Max})$ (A/ μsec)	$\text{Min } dv/dt$ @ $T_J(\text{Max})$ (V/ μsec)
<u>60 @ 81°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>						
<u>60 @ 65°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>	<u>15</u>	<u>200-600</u>	<u>190</u>	<u>2.45</u>	<u>190</u>	<u>2</u>
<u>150 @ 77°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>						
<u>60 @ 81°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>	<u>15</u>	<u>600-1200</u>	<u>190</u>	<u>2.05</u>	<u>470</u>	<u>1.8</u>
<u>150 @ 77°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>						
<u>60 @ 81°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>	<u>15</u>	<u>200-800</u>	<u>190</u>	<u>2.05</u>	<u>470</u>	<u>1.8</u>
<u>150 @ 82°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>						
<u>60 @ 88°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>	<u>15</u>	<u>600-1200</u>	<u>190</u>	<u>2.05</u>	<u>470</u>	<u>1.8</u>
<u>150 @ 82°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>						
<u>60 @ 88°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>	<u>15</u>	<u>200-800</u>	<u>190</u>	<u>2.05</u>	<u>470</u>	<u>1.8</u>
<u>250 @ 83°C</u>	<u>4.6</u>	<u>5</u>	<u>110</u>						
<u>100 @ 85°C</u>	<u>1.8</u>	<u>2</u>	<u>17</u>	<u>30</u>	<u>600-1200</u>	<u>310</u>	<u>2.05</u>	<u>780</u>	<u>1.75</u>
<u>250 @ 83°C</u>	<u>4.6</u>	<u>5</u>	<u>110</u>						
<u>100 @ 85°C</u>	<u>1.8</u>	<u>2</u>	<u>17</u>	<u>30</u>	<u>200-800</u>	<u>310</u>	<u>2.05</u>	<u>780</u>	<u>1.75</u>
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<u>400 @ 77°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>						
<u>150 @ 103°C</u>	<u>3.2</u>	<u>3.5</u>	<u>50</u>	<u>50</u>	<u>600-1200</u>	<u>1250</u>	<u>2.2</u>	<u>1250</u>	<u>2.2</u>
<u>400 @ 77°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>						
<u>150 @ 103°C</u>	<u>3.2</u>	<u>3.5</u>	<u>50</u>	<u>50</u>	<u>200-800</u>	<u>1250</u>	<u>2.2</u>	<u>1250</u>	<u>2.2</u>
<u>400 @ 89°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>						
<u>150 @ 102°C</u>	<u>3.2</u>	<u>3.5</u>	<u>51</u>	<u>80</u>	<u>2500</u>	<u>1200</u>	<u>4</u>	<u>600</u>	<u>2</u>
<u>400 @ 81°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>						
<u>150 @ 102°C</u>	<u>3.2</u>	<u>3.5</u>	<u>51</u>	<u>80</u>	<u>2500</u>	<u>1200</u>	<u>4</u>	<u>600</u>	<u>2</u>
<u>1000 @ 60°C</u>	<u>12.8</u>	<u>14</u>	<u>820</u>						
<u>400 @ 59°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>	<u>150</u>	<u>2500</u>	<u>2400</u>	<u>4.5</u>	<u>1000</u>	<u>2.1</u>
<u>1000 @ 47°C</u>	<u>12.8</u>	<u>14</u>	<u>820</u>						
<u>400 @ 59°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>	<u>150</u>	<u>2500</u>	<u>2400</u>	<u>4.5</u>	<u>1000</u>	<u>2.1</u>
								<u>50</u>	<u>300</u>
									<u>700</u>

Note 1: Junction Temperature Range = -40 to 125°C

Note 2: Current Rating at 60 Hz, 180° Conduction, Half Sine

Gate Trigger Voltage and Current, $T_J=25^\circ C$				PACKAGE INFORMATION			
Vgr (Volts)	Igr (mA)	Rejc °C/W	Diode °C/W	Max Mounting Force or Torque	STYLE	Outline	Type No.
3	150	.35	.40	<u>210 lb-in</u> <u>180 kg-cm</u>	M12 x 1.5 Stud	Metric	RCR70BY
3	200	.17	.35	<u>420 lb-in</u> <u>360 kg-cm</u>	M20 x 1.5 Stud	Metric	RCR150BX
3	200	.17	.35	<u>420 lb-in</u> <u>360 kg-cm</u>	M20 x 1.5 Stud	Metric	RCR150BY
3	200	.15	.30	<u>1580 lbs</u> <u>7.1 KN</u>	Press Pak	14.5 x 43 mm	FR150DX
3	200	.15	.30	<u>1580 lbs</u> <u>7.1 KN</u>	Press Pak	14.5 x 43 mm	FR150DY
3	250	.10	.20	<u>700 lb-in</u> <u>600 kg-cm</u>	M24 x 1.5 Stud	Metric	RCR300BX
3	250	.10	.20	<u>700 lb-in</u> <u>600 kg-cm</u>	M24 x 1.5 Stud	Metric	RCR300BY
3	250	.10	.20	<u>2420 lbs</u> <u>10.8 KN</u>	Press Pak	14.5 x 50 mm	FR300DX
3	250	.10	.20	<u>2420 lbs</u> <u>10.8 KN</u>	Press Pak	14.5 x 50 mm	FR300DY
4	350	.05	.10	<u>3960 lbs</u> <u>17.7 KN</u>	Press Pak	18 x 85 mm	FR500AX
4	350	.05	.10	<u>3960 lbs</u> <u>17.7 KN</u>	Press Pak	18 x 85 mm	FR500AY
4	350	.035	.10	<u>6600 lbs</u> <u>30 KN</u>	Press Pak	21 x 92 mm	FR600AX
4	350	.035	.10	<u>6600 lbs</u> <u>30 KN</u>	Press Pak	21 x 92 mm	FR600AW
4	350	.022	.07	<u>7920 lbs</u> <u>35.6 KN</u>	Press Pak	21 x 102 mm	FR1000BX
4	350	.022	.07	<u>7920 lbs</u> <u>35.6 KN</u>	Press Pak	21 x 102 mm	FR1000BW



T-91-01

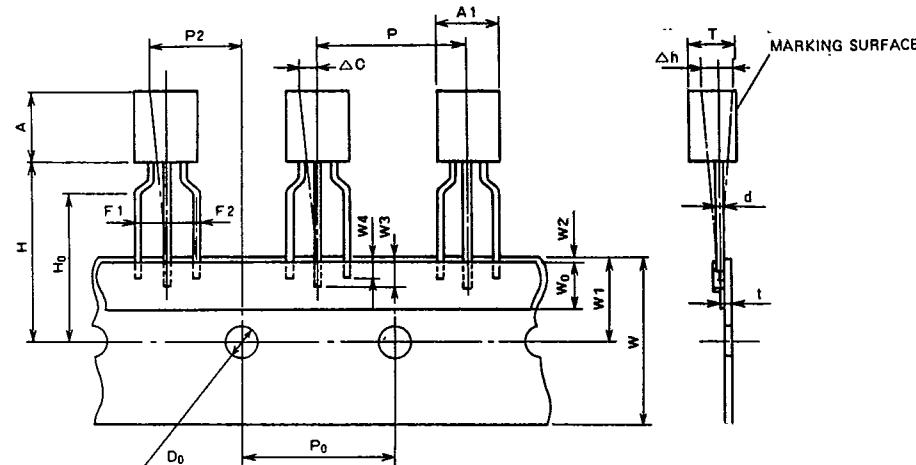
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272
 Powerex Europe, S.A., 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Taping

STANDARD SPECIFICATIONS FOR TAPING OF MOLDED PACKAGE THYRISTORS AND TRIACS

TO-92 Package

Thyristor
 CR02AM, CR03AM, CR04AM
Triac
 BCR1AM



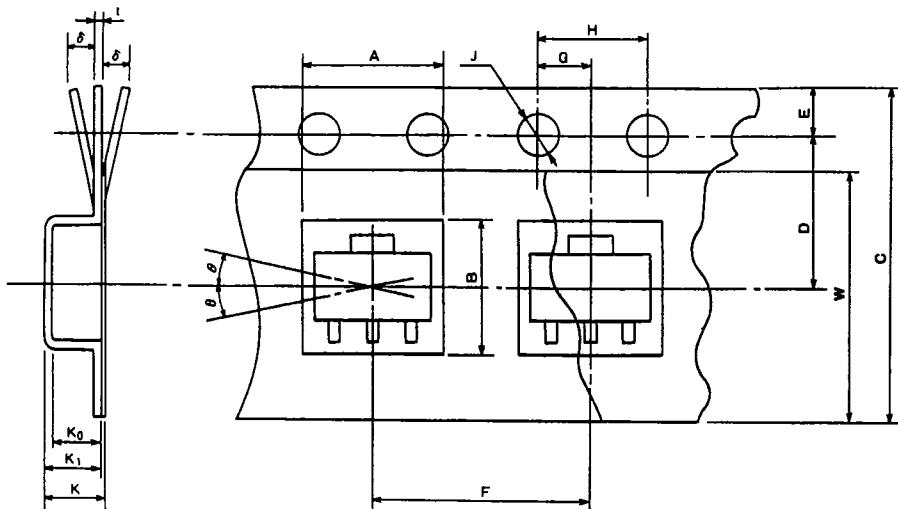
Taping dimensions

Description of symbol	Symbol	Dimensions (Unit:mm)	Remark
Product width	A1	5.0 MAX	
Product height	A	5.0 MAX	
Product thickness	T	3.7 MAX	
Lead wire diameter	d	0.6 MAX	
Sticker lead wire length (1)	W3	2.5 MIN	
Sticker lead wire length (2)	W4	2.0 MIN	
Pitch between products	P	12.7 ± 1.0	
Feed hole pitch	P0	12.7 ± 0.3	The cumulative pitch error is ±1mm per 20 pitches.
Feed hole deviation (1)	P2	6.35 ± 1.3	
Distance between lead wires	F1, F2	2.5 ± 0.4	
Defective product (1)	Δh	0 ± 2.0	
Tape width	W	18.0 ± 1.0 0.5	
Sticker tape width	W0	6.0 ± 0.5	
Feed hole deviation (2)	W1	9.0 ± 0.5	
Sticker tape deviation	W2	0.5 MAX	
Position of product bottom surface	H	17.5 MIN	
Lynch height of lead wire	H0	16.0 ± 0.5	
Feed hole diameter	D0	4.0 ± 0.2	
Tape thickness	t	0.7 ± 0.2	
Defective product (2)	ΔC	0 ± 1.0	



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Powerex Semiconductor Data Book
Taping



SOT-89 Package

Thyristor
CR08AS

Taping dimensions

Description of symbol	Symbol	Dimensions/angles Unit:mm	Remark
Parts insertion Concave square hole	Height	$A = 5.0 \pm 0.1$	Cross-section of the surface 0.5mm above the inner bottom
	Width	$B = 4.6 \pm 0.1$	Cross-section of the surface 0.5mm above the inner bottom
	K_0	1.8 ± 0.1	Inner space
	F	8.0 ± 0.1	Cumulative error +0.1/-0.3 MAX/10 pitches
Round feed hole	Diameter	$J = \phi 1.5 \pm 0.1$	
	Pitch	$H = 4.0 \pm 0.1$	Cumulative error +0.1/-0.3 MAX/10 pitches
	E	1.5 ± 0.1	Distance between the tape edge and the hole center
Distance between center lines	Vertical	$G = 2.0 \pm 0.5$	Center line of concave square hole and round feed hole
	Horizontal	$D = 5.65 \pm 0.05$	Center line of concave square hole and round feed hole
Cover tape	Width	$W = 9.5 + 0.3 / -0$	Thickness: 0.1 MAX
Carrier tape	Width	$C = 12 \pm 0.2$	Warp 0.3 MAX
	Thickness	$t = 0.3 \pm 0.05$	
	Package hole depth	$K_1 = 2.1 \pm 0.1$	
Device	Package dimensions	—	As shown in (e)
	Inclination	$\theta = 30^\circ$ MAX.	
Total Thickness	K	2.3 ± 0.1	Total thickness including cover and carrier tapes